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Work on Genetic Manipulation Must Continue, Scientists Insist

By VICTOR K. McELHENY

Continued work on so-called genetic manipulation, and in microbiology generally, "is of the utmost importance for progress in medicine and in public health," a committee of leading scientists has advised the director general of the World Health Organization.

Scientists interpreted the declaration, issued last week by the W. H. O. Advisory Committee on Medical Research, as an attempt to combat public misunderstanding of potential risks of the genetic work.

Dr. Martin Kaplan, secretary to the committee, interviewed by telephone in Geneva, said the committee's report adopted "a more moderate position on the risks that are involved" than some groups of scientists had expressed.

Potential risks from the work led to a voluntary, eight-month pause urged by an American group of biologists a year ago, a full-dress review of the problem by aspecial committee in England and then resumption of the research under stringent guidelines adopted by an international conference last February in Pacific Grove, Calif.

Transfer of Genes

The studies involve the fusing of cells from different species, and the more recently developed techniques of transferring genes from animals into the cells of rapidly multiplying bacteria.

"Recent great advances in molecular biology and genetics have added a new dimension to the power of microbiological research, and thus to the possibilities of further health benefits and correspondingly of possible risks," the committee said.

In effect, 17 said, genetic material "can be transferred from various cell sources, even mammalian cells," into bacteria.

"By overcoming the usual biological barriers between species, as offered by these new methods of genetic engineering, organisms can be created and propagated which possess completely new characters," the committee added.

The scientists on the W.H.O. advisory committee, including several Nobel Prize winners, urged more attention to broader risks in microbiology that, they said, will require increasing vigilance but that must be run to conquer diseases.

Risks Are Listed

The broad risks include, the committee said, the spread of disease organisms with resistance to commonly used antibiotics. It mentioned specifically strains of a bacterium called Shigella typhi that have become resistant to the antibiotic chloramphenicol.

The potential risks from genetic manipulation work, it said, "can be sufficiently minimized to justify continued activity for the benefits of research in this field."

According to Dr. Joshua Lederberg of Stanford University, a committee member, the potential benefits could include the manufacture of antibody proteins for victims of severe infectious diseases whose own immune systems were not making enough.

In a telephone interview, Dr. Lederberg said that this possibility could have a far wider effect than the previously mentioned hope of using genes transferred into bacteria to manufacture large quantities of insulin for diabetics or human growth hormone for children whose growth has been stunted.

"People working in this field are not playing childish games," he said. "They have a serious purpose. They have an obligation to pursue investigations vital to public health."

The W.H.O. committee asserted, "In this, as in most other fields of human endeavor, useful activities cannot be paralyzed by the lack of absolute assurance of safety."

The chairman of the committee is Dr. Nevin Scrimshaw, head of the department of nutrition and food science at the Massachusetts Institute of Technology.

Old Safety Measures

In a telephone interview, Dr. Schrimshaw said that "conventional" protective measures taken by microbiologists for decades could "give a very large measure of safety" to the gene manipulation work undertaken recently by molecular biologists.

The W.H.O. committee advocated technical studies on the design of safe facilities, procedures for evaluating the safety of particular laboratories, defining risks and benefits more precisely and, finally, the development of what biologists call "safe bugs" for the genetic manipulation work.

The committee's discussion of gene manipulation problems was issued at a special news conference in Geneva, the headquarters of the W.H.O. The statement resulted from a special meeting in Geneva June 20 and 21, before the annual session of the committee.

Dr. Lederberg was chairman of the session on genetic work. Among others attending were Drs. Scrimshaw, V. D. Soloviev of the Soviet Union, G. J. V. Nossal of Australia, Christian de Duve of Belgium and Otto Westphal of Germany.

Special advisers attending were Drs. Sydney Brenner and E. S. Anderson of England and Andre Lwoff of France.